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PATENT



13321C1

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Baumann et al. Examiner: To be assigned  
 Serial No.: 10/669,271 Group Art Unit: 1754  
 Filed: September 23, 2003  
 For: Method for catalytic conversion of carbon monoxide in a gas mixture  
 containing hydrogen  
 Customer No.:

**23719**

PATENT TRADEMARK OFFICE

Kalow & Springut LLP  
 488 Madison Avenue, 19th Floor  
 New York, New York 10022

October 27, 2004

Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Sir:

Applicants submit herewith the following disclosure in accordance with the provisions of  
 37 C.F.R. §§ 1.97 and 1.98.

**I. U.S. PATENT DOCUMENTS**

<b><u>Patent No.</u></b>	<b><u>Date Issued</u></b>	<b><u>Title</u></b>
4,716,859 to Konig et al.	Jan. 5, 1988	Process For Treatment of Liquids Consisting Primarily of Methanol

**Certificate of Mailing Under 37 C.F.R. 1.8**

I hereby certify that this correspondence is being deposited on the date shown below with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

(Signature)

(Printed Name of Person Signing Certificate)

(Date)

11/02/2004 FMEYER11 00000014 10669271

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**I. U.S. PATENT DOCUMENTS (Cont)**

<b><u>Patent No.</u></b>	<b><u>Date Issued</u></b>	<b><u>Title</u></b>
4,857,499 to Ito et al.	Aug. 15, 1989	High Temperature Combustion Catalyst and Method for Producing the Same.
5,491,120 to Voss et al	Feb. 13, 1996	Oxidation Catalyst with Bulk Ceria, a Second bulk metal oxide, and platinum
5,915,951 to Euzen et al.	June 29, 1999	Process for Catalytic Combustion of a Fuel in the Presence of a Non-Selective of Oxidation Catalyst
6,153,160 to Voss et al	Nov. 28, 2000	Catalytic Oxidation Method
6,235,417 to Wachsman et al.	May 22, 2001	Two-Phase Hydrogen Premeation Membrane
6,238,816 to Cable et al.	May 29, 2001	Method for Steam Reforming Hydrocarbons Using a Sulfur-Tolerant Catalyst
6,248,684 to Yavuz et al	June 19, 2001	Zeolite-Containing Oxidation Catalyst and Method of Use
6,274,107 to Yavuz et al.	Aug. 14, 2001	Zeolite-Containing Oxidation Catalyst and Method of Use
6,436,363 to Hwang et al.	Aug. 20, 2002	Process for Generating Hydrogen-Rich Gas
6,524,550 to Chinatawar et al.	Feb. 25, 2003	Process for Converting Carbon Monoxide and Water in a Reformate Stream
6,555,088 to Baumann et al	Apr. 29, 2003	Method for Catalytic Conversion of Carbon Monoxide in a Hydrogen-Containing Gas Mixture with Improved Cold Start Behavior

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### **I. U.S. PATENT DOCUMENTS (Cont)**

<b><u>Patent No.</u></b>	<b><u>Date Issued</u></b>	<b><u>Title</u></b>
6,569,392 to Li et al	May 27, 2003	Three-Way Rare Earth Oxide Catalyst
6,723,298 to Baumann et al	Apr. 20, 2004	Method for Catalytic Conversion of Carbon Monoxide in a Hydrogen-Containing Gas Mixture
2002/0114746 A1 to Roark et al	August 22, 2002	Selective Removal of Carbon Monoxide
2002/0127445 A1 to Carpenter et al.	September 12, 2002	Catalytic Generation of Hydrogen
2002/013925 A1 to Shore et al.	September 19, 2002	Ruthenium Oxidation Catalyst
2003/0007912 A1 to Silver	January 9, 2003	Shift Converter Having an Improved Catalyst Composition
2003/0235526 A1 to Vanderspurt et al	December 25, 2003	Ceria-Based Mixed-Metal Oxide Structure, including Method of Making and Use

### **I. FOREIGN PATENT DOCUMENTS**

<b><u>Publication No.</u></b>	<b><u>Country</u></b>	<b><u>Publication Date</u></b>
40 03 939 C2	DE	March 19, 1992
689 04 778 T2	DE	July 1, 1993
197 27 588 C1	DE	February 18, 1999
197 55 814 C1	DE	November 18, 1999

1 058 328 A2	EP	December 12, 2000
2,325,506	CA	September 30, 1999

### **III. NON PATENT PUBLICATIONS**

“NO Decomposition Over Partially Reduced Metallized CeO<sub>2</sub>—ZrO<sub>2</sub> Solid Solutions,” Gangavarapu Ranga Rao, *et al.*, *Catalyst Letters* 24 (1994) 107-112.

“Rh-Loaded CeO<sub>2</sub>—ZrO<sub>2</sub> Solid Solutions As Highly Efficient Oxygen Exchangers: Dependence Of The Reduction Behavior And The Oxygen Storage Capacity On The Structural Properties,” P. Fornasiero, *et al.*, *Journal of Catalysis* 151, 168-177 (1995).

“Advanced TWC Technologies Using CeO<sub>2</sub>/ZrO<sub>2</sub> Solid Solutions,” J.G. Nunan, *et al.*, *SAE Technical Paper Series* 960798, 1-8 (1996).

“An XRD And TEM Investigation Of The Structure Of Alumina-Supported Ceria-Zirconia,” M.H. Yao, *et al.*, *Journal of Catalysis* 166, 67-74 (1997).

“Platinum-Promoted Catalysis By Ceria: A Study Of Carbon Monoxide Oxidation Over Pt(111)/CeO<sub>2</sub>,” Christopher Hardacre, *et al.*, *J. Phys. Chem.* 1994, 10901-10905.

“Studies Of The Water-Gas-Shift Reaction On Ceria-Supported Pt, Pd, and Rh: Implications For Oxygen-Storage Properties,” T. Bunluesin, *et al.*, *Applied Catalysis B: Environmental* 15 (1998) 107-114.

Characterization of ceria films on  $\alpha$ -Al<sub>2</sub>O<sub>3</sub>(0001) and polycrystalline zirconia using O<sub>2</sub> TPD with labeled <sup>18</sup>O<sub>2</sub>” E.S. Putna, *et al.* *Catalysis Letters* 45 (1997) 143-147.

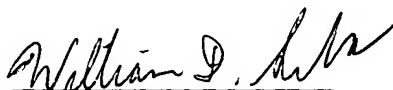
Applicant: Baumann et al.  
Serial No.: 10/669271  
Filed: 9/23/03  
Information Disclosure Statement – Page 5

The items listed above are identified on the accompanying Form PTO 1449. A copy of each of the items identified above is also submitted with this statement.

Applicants take no position on whether any of the items cited above and listed on the accompanying Form PTO 1449 constitute prior art against the subject application under any particular provision of Title 35 of the United States Code.

A check in the amount of **\$180.00** is enclosed to cover the fee. If any additional fees are due or any overpayment has been made, please charge our **Deposit Account No. 11-0171** or credit our Deposit account for such sum.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "William D. Schmidt", written over a horizontal line.

William D. Schmidt  
Registration No.: 39,492  
Attorney for Applicant

Kalow & Springut LLP  
(212) 813-1600



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Sheet 1 of 7

Form PTO/SB/08 [modified]  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use several sheets if necessary)	Docket No.: 13321C1	Application No.: 10/669,271
	Applicants: Baumann et al.	
	Filing Date: September 23, 2003	Group Art Unit: 1754

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	CITE NO <sup>1</sup>	PUBLICATION NUMBER Number- Kind Code <sup>2</sup> (if known)	PUBLICATION DATE MM-DD-YYYY	NAME OF PATENTEE OR APPLICANT OF CITED DOCUMENT
		4,716,859	01-05-1998	Konig et al
		4,857,499	08-15-1989	Ito et al
		5,491,120	02-13-1996	Voss et al
		5,915,951	06-29-1999	Euzen et al
		6,153,160	11-28-2000	Voss et al

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	CITE NO <sup>1</sup>	PUBLICATION NUMBER Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)	PUBLICATION DATE MM-DD-YYYY	NAME OF PATENTEE OR APPLICANT OF CITED DOCUMENT	
		DE 40 03 939 C2	03-19-1992	Degussa AG	
		DE 689 04 778 T2	07-01-1993	Allied-Signal Inc.	
		DE 197 27 588 C1	02-18-1999	DBB Fuel Cell Engines GmbH	
		DE 197 55 814 C1	11-18-1999	DBB Fuel Cell Engines GmbH	

## OTHER DOCUMENTS

(including Author, Title, Date, Pertinent Pages, Etc.)

	M.H. Yao, <i>et al.</i> , "An XRD And TEM Investigation Of The Structure Of Alumina-Supported Ceria-Zirconia," <i>Journal of Catalysis</i> 166, 67-74 (1997).
	Christopher Hardacre, <i>et al.</i> , "Platinum-Promoted Catalysis By Ceria: A Study Of Carbon Monoxide Oxidation Over Pt(111)/CeO <sub>2</sub> ," <i>J. Phys. Chem.</i> 1994, 10901-10905.
	T. Bunluesin, <i>et al.</i> "Studies Of The Water-Gas-Shift Reaction On Ceria-Supported Pt, Pd, and Rh: Implications For Oxygen-Storage Properties," <i>Applied Catalysis B: Environmental</i> 15 (1998) 107-114.
	E.S. Putna, <i>et al.</i> "Characterization of ceria films on $\alpha$ -Al <sub>2</sub> O <sub>3</sub> (0001) and polycrystalline zirconia using O <sub>2</sub> TPD with labeled <sup>18</sup> O <sub>2</sub> " <i>Catalysis Letters</i> 45 (1997) 143-147.

EXAMINER:	DATE CONSIDERED:
<p><sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at <a href="http://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. <sup>6</sup> If possible. <sup>7</sup> Applicant is to place a check mark here if English language Translation is attached.</p> <p>Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.</p> <p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>	

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		6,235,417	05-22-2001	Wachsmann et al
		6,238,816	05-29-2001	Cable et al.
		6,248,684	06-19-2001	Yavuz et al
		6,274,107	08-14-2001	Yavuz et al
		6,436,363	08-20-2002	Hwang et al.

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	CITE NO <sup>1</sup>	PUBLICATION NUMBER Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)	PUBLICATION DATE MM-DD-YYYY	NAME OF PATENTEE OR APPLICANT OF CITED DOCUMENT	
		EP 1 058 328 A2	12-12-2000	General Motors Corporation	
		CA 2 325 506	09-30-1999	Johnson Matthey Public Limited Company	

## OTHER DOCUMENTS

(including Author, Title, Date, Pertinent Pages, Etc.)

	Gangavarapu Ranga Rao, <i>et al.</i> , "NO Decomposition Over Partially Reduced Metallized CeO <sub>2</sub> —ZrO <sub>2</sub> Solid Solutions," <i>Catalyst Letters</i> 24 (1994) 107-112.
	J.G. Nunan, <i>et al.</i> , "Advanced TWC Technologies Using CeO <sub>2</sub> /ZrO <sub>2</sub> Solid Solutions," <i>SAE Technical Paper Series</i> 960798, 1-8 (1996).
	P. Fornasiero, <i>et al.</i> , "Rh-Loaded CeO <sub>2</sub> —ZrO <sub>2</sub> Solid Solutions As Highly Efficient Oxygen Exchangers: Dependence Of The Reduction Behavior And The Oxygen Storage Capacity On The Structural Properties," <i>Journal of Catalysis</i> 151, 168-177 (1995).

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<p><sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at <a href="http://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. <sup>6</sup> If possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.</p> <p>Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.</p> <p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>	

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		6,524,550	02-25-2003	Chinatawar et al
		6,555,088	04-29-2003	Baumann et al
		6,569,392	05-27-2003	Li et al
		6,723,298	04-20-04	Baumann et al
		2002/0114746 A1	08-22-2002	Roark et al.

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		2002/0127445 A1	09-12-2002	Carpenter et al
		2002/013925 A1	09-19-20020	Shore et al.
		2003/0007912 A1	01-09-2003	Silver et al.
		2003/0235526 A1	12-25-2003	Vanderspurt et al.

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